

Fitting, using and maintaining your saddle

Here is some advice for fitting, using and maintaining your saddle, compiled by the Animal Health Trust in collaboration with World Horse Welfare. Our research has highlighted some areas that should be carefully considered when fitting a new saddle, which will help to maintain and develop the horse's top-line and reduce the likelihood of back pain. It is also important to remember to maintain your saddle properly and to make sure it fits both yourself and your horse throughout the year.



Buying and fitting a new saddle

- **Do** use a qualified saddle fitter from the Society of Master Saddlers - www.mastersaddlers.co.uk
- **Don't** buy a saddle without trying it on the horse.
- **Do** make sure the fitting includes ridden exercise, because horses may change shape as they work.
- **Do** aim to fit a new saddle when your horse is in a shape and condition which it is likely to maintain. There is no point buying a saddle when your horse is at its fittest, if you do not have the time to keep it fit. Preliminary data indicate that if a horse is not kept in a strict and consistent exercise and weight-maintaining programme, it will change shape over time.
- **Do** make sure the horse moves well underneath the saddle.
- **Do** make sure that you as the rider feel comfortable in the saddle and in balance with the horse.
- **Do** assess the combined fit if you intend to use your saddle with a pad or numnah, not the saddle alone.
- **Do** test the saddle under the conditions that you expect it will be used e.g., jumping, going up and down hills, galloping, riding long distances.

What type of saddle to buy?

The style of saddle that you have depends on what type of riding you do, and to what level you aspire to ride. For more advanced riding, a specialist saddle may help your position and effectiveness, but you may have to make a compromise depending on whether you can afford to buy more than one saddle. The position of the stirrup bars controls the position of the rider's legs, which influences the shape of the saddle flaps.

A general-purpose saddle is ideal for a pleasure rider that enjoys a variety of different types of riding. This type of saddle has a variably deep seat, but forward cut flaps without large knee rolls and can accommodate the rider for basic jumping, hacking, hunting and dressage.

A dressage saddle has straight flaps, and provides the rider with a closer leg contact essential for accurate and precise moves. It enables the rider to sit upright with a longer, straighter-legged position. There may be knee rolls and sometimes thigh rolls, to help to keep the legs well positioned.

A jumping saddle usually has a flatter seat and bigger, more forward cut flaps compared with dressage saddles, to facilitate the two-point jumping position when going over fences. The shape of the seat varies, and what is ideal for you depends somewhat on your jumping position. This is influenced by the length of stirrup which you prefer and, if riding cross country, how much you need to alter your position based on the type of fence that you are jumping.

Close contact saddles exist in all types of saddle and have been designed to put the rider closer to their horse. To obtain a close contact, the saddle has to have thin panels and it is potentially more difficult to fit properly. It is important to check frequently that the panels are adequately thick to protect the horse's back from the tree.

If you suffer from back pain...

Back pain is often exacerbated by poor saddle fit, especially a saddle that tips forward or backward. It is worth checking that the stirrup bars are not too far forward. If the saddle has a long seat it may place you too far back, trapping you in a 'chair seat' position. Particularly if you are long-legged, you will be positioned further back in the seat and you will therefore require a larger seat, even though you may have small buttocks. This can be challenging if the horse's back is short, because the saddle should not extend beyond the top of the last rib of the horse. The position and size of knee rolls also influence rider position and if incorrect for the shape of the rider can result in back pain.



Saddles are designed specifically for various disciplines. A general-purpose saddle is less effective in each discipline, but can be used in every discipline, and is therefore ideal if you cannot afford more than one saddle and you would like to do a variety of different types of riding.

What to consider about the seat?

- The top of the saddle consists of the sitting area, a narrower area in front under which the stirrup bars are located, the front (pommel), and the back (cantle).
- The seat size should be based on both the size of the rider's buttocks and the length of their thighs.
- The rider's seat bones should point straight down, with the same amount of free space between the rider and the pommel and between the rider and the cantle.
- The horse's shape determines the size and shape of the tree of the saddle, which also establishes the overall width of the saddle. If you have a narrow pelvis, it is best to avoid buying a very wide cob, which will need a wide tree, although a narrow seat can be built onto a wide tree, depending on the saddle's construction.
- If the saddle is too wide for the rider it will be uncomfortable for the rider.
- Be aware that there are different designs of saddle to adapt to the different shapes of the rider's pelvis. Therefore a saddle that fits an adult male pelvis is unlikely to fit a female as well.
- Manufacturers make saddle flaps for "average-sized legs" and short- or long-legged people usually suffer. You should choose a saddle with an appropriate flap-length. Your knee should come approximately to the centre of the knee roll, and the flap should be wide enough to enable your leg to move without leaving the flap if you shorten your stirrups. Saddle flaps can be changed to fit.

SADDLE FEATURE FACTORS THE RIDER SHOULD CONSIDER

- | SADDLE FEATURE | FACTORS THE RIDER SHOULD CONSIDER |
|-----------------------|--|
| Saddle balance | <ul style="list-style-type: none">• Rider should feel comfortable• Rider pelvis and thighs should have uniform contact and follow the shape of the saddle.• Rider should be stable in the seat when standing still and at walk and not feel that they are tipping forward or backward. |
| Seat | <ul style="list-style-type: none">• The length and width should fit the size of the rider. Saddle shape should fit the rider's pelvis so that even contact is made between the rider's seat bones and thighs. Male and female pelvic shapes differ, so they need a different shaped saddle. The rider should sit in the centre of the saddle and feel comfortable. |
| Pommel | <ul style="list-style-type: none">• The pommel needs to be high enough not to interfere with the wither and low enough to avoid interfering with the rider's position and comfort. |
| Saddle flaps | <ul style="list-style-type: none">• Your knee should come to the centre of the knee roll and the leather flap should be wide enough to allow you to move your leg back without leaving the flap. Your knee roll should be placed so you do not feel that you are being pushed away from the flap. |
| Rider balance | <ul style="list-style-type: none">• The most stable position for the rider is when the hip joint is in line with the ankle and the stirrup leather hangs vertically. |

Saddle innovations

Treed saddles

Well-fitting treed saddles provide a stable seat for the rider, and help distribute the rider's weight over a large area of the horse's back. However, ill-fitting treed saddles can cause pressure points, muscle atrophy and poor performance. A tree can be manufactured crookedly, or can break and cause back pain.

Treeless saddles

Some horses appear more comfortable in a treeless saddle compared with a treed saddle. Truly treeless saddles are completely flexible. However, they may have no gullet and if a horse has a prominent spine this may not be the best option. Weight fluctuation, and the changing shape of the horse's back are the most obvious reasons for choosing a treeless saddle. Many so-called 'treeless' saddles have some form of rigid structure to support the shape and stop it collapsing onto the back. There is often a rigid pommel arch which, although it gives the appearance of wither clearance, can leave the stirrup and girth attachments unsupported, causing peak pressure points over the back. Make sure that a professional fitting service is available for the specific design that you select.

Air pockets

Some saddles have air pockets which can be filled to mould to the horse's back and thus adapt the saddle to asymmetries of the horse's back. The amount of air can be adjusted to accommodate changes in back shape. Air is not subject to compression like conventional flocking and the risk of pressure points may be reduced. Air may leak over time, so regular checks are required.

Adjustable tree

Some saddles have an adjustable tree so that the angle at the front can be changed. This is a good option if your horse tends to change shape frequently under the front of the saddle, without changing shape further back beneath the saddle.

However, preliminary data indicate that if a horse becomes narrower underneath the front of the saddle, this is often accompanied by a 'wider' shape at the level of the back of the saddle. Changing the width of the front of the tree will not necessarily allow the saddle to follow the shape of the horse's entire back.

- **If only one part of the tree fits well, it is no better than having a saddle in which the whole tree doesn't fit.**
- **It is not easy to adjust the tree quickly and accurately.**
- **Buying saddles with adjustable trees to fit many horses is not advisable.**



A saddle tree to which the stirrup bars are attached.



Changing the width of the front of the saddle.

Recognising saddle fitting problems

A lack of knowledge of how to recognise incorrect saddle fit can lead to pain, discomfort and ultimately poor performance.

Physical Signs of Poor Saddle Fit

Early warning signs...

- Muscle soreness under or behind the saddle. The horse may flinch when being groomed, or behave abnormally when being tacked up.
- Dry patches under the front of the saddle surrounded by sweat after exercise.
- Dry patches on the spine surrounded by sweat after exercise could indicate too many layers or too thick a layer beneath the saddle, filling up the gullet, and pressing on the spine.
- Swellings under the saddle after exercise.

Long-term indicators...

- Depressions behind the scapulae (shoulder blades) or elsewhere under the saddle. These may reflect a chronically poorly-fitted saddle and pressure points.
- White hairs appear when pressure has injured the hair follicles. However, they usually do not appear until the hair coat changes.
- Dry patches under the front of the saddle surrounded by sweat after exercise.
- Scabby skin lesions under the front or back of the saddle.



Depressions behind the scapulae, worse on the left side, reflecting a poorly-fitted saddle. The white hairs at the wither are probably the result of rug pressure.

How to assess saddle fit yourself

You should always get a qualified saddle fitter to fit and check saddles, but here are some things you can check yourself between visits....

The width and length of the tree of the saddle must be suitable for the shape of the horse's back:

Check length: The tree of the saddle should not extend beyond the top of the last rib (T18).

- Jumping saddles are longer in the seat than dressage saddles to allow for a more horizontal thigh position.
- Some pony saddles are not adequately adapted to fit relatively large young people, without being too long for a pony's back. The seat, knee rolls and flaps need to be designed to accommodate the rider's growth.



In the top 2 pictures the green line shows the position of the last rib; both saddles fit acceptably. In the bottom picture the tree of the saddle extends beyond the top of the last rib (T18) and is too long.

Check width: The saddle should not tip back on the horse's back or tip forward.



The green line indicates that the saddle to the left is in balance. The saddle in the middle is tipping back on the horse's back and the saddle to the right is tipping forward on the horse's back. The red lines indicate the slope of the seats.

The saddle should remain central on your horse's back in walk, trot and canter, with the seat parallel to the ground. A little movement from side to side is normal, but the saddle should not swing from side to side or lift off the back. The rider must be able to sit centrally in the seat, not tipping forward or back. When your legs hang they should not drift forward or backward. You should be able to stand in the stirrups and maintain your balance.

The gullet is the central channel on the underside of the saddle which fits over the top of the horse's spine. It should not be in contact with the spine when a rider is on the saddle.

Check that at least two fingers' width aligned vertically (3cm) can be inserted under the pommel when the rider is standing in the stirrups, both before and after exercise.

Check that you can see through the gullet of the saddle. The development of white hair on the top of the horse's back can indicate lack of clearance.



This hair is ruffled forward, reflecting a saddle which has been moving forward. The white hairs on the wither are the result of a previously ill-fitting saddle.



The arrow indicates the level of the front of the tree (the point of the saddle) which should be 5 cm behind the scapula.

The front of the tree (the point of the saddle) should stay approximately 5 cm behind the top of the back of the horse's scapulae (see image left).

Check that the saddle stays behind the scapulae during exercise. Ruffling of the hair underneath the saddle could indicate undesirable movement.

The bearing area (panels) should be in contact all the way along the back.

Material used in panels differs, but this is not important provided that the panels are soft and smooth against the horse's back.



A saddle which is too far forward and overriding the scapulae. The white lines outline the back of the right scapula.

Feel under the saddle for any gaps. There should not be any areas where there is either reduced contact or no contact between the panels and the horse's back. This can also be checked by looking at the grease on the saddle, if using the saddle without a numnah.

Alternatively, dust the bottom of the saddle with talcum powder and see how it is distributed on the horse's back. You should not be able to run your hand under the front panel with a rider on the horse. Feel for excessive pressure, especially under the tree points. Look at the distribution of sweat on the numnah under the saddle, or look for the presence of dry spots on the back after exercise, which may indicate pressure points.



The same horse before (left) and after (right) exercise. There are dry spots under the front of the saddle after exercise surrounded by sweat, reflecting excessive pressure from the saddle.

Fitting of the saddle relative to back shape

- The panels of the saddle must smoothly follow the curve of the horse's back to fit well.
- Do recognise that back-shape can change within two months, the speed and direction of which are influenced by saddle-fit, age of the horse, level and type of work and bodyweight. Frequent saddle fit check is important, particularly when the grass starts to grow in the spring. Saddles need to be adjusted to accommodate for these changes.

- Horses having time off work are likely to change shape and saddle fit should be checked when work is resumed.

Should I use a numnah, gel pad or riser pad?

- A well-fitted saddle should not need anything underneath it.
- A numnah or saddle pad can be used to keep the bottom of the saddle clean, to carry a sponsor's logo or to change the appearance of the horse's back.
- A thick numnah or saddle pad can alter the fit of a saddle.

Especially in the winter the hair under the back of the horse's saddle may get worn. This should be symmetrical. If it is not symmetrical, or if the skin is red or sore, there is a potential problem.

- Numnahs and pads can change the balance of a saddle and can narrow the space available between the gullet and the horse's spine. Adding a thick pad can unbalance a saddle that is sitting level without a pad. If you do not want to change the balance of the saddle, you should only use a thin numnah or saddle pad. If you decide that you want to use a thick pad, you need to be aware this could worsen the fit of one saddle and improve the fit of another saddle. You need to be aware of your horse and be aware that if you feel an initial improvement in performance when adding a pad, it can be due to a relocation of pressure points rather than removing pressure points. Saddle fit needs to be changed.

- A riser pad elevates the entire saddle, either uniformly or the front or the back of the saddle preferentially. For example a riser pad which raises the back of the saddle may be used if the saddle slopes down toward the cantle.

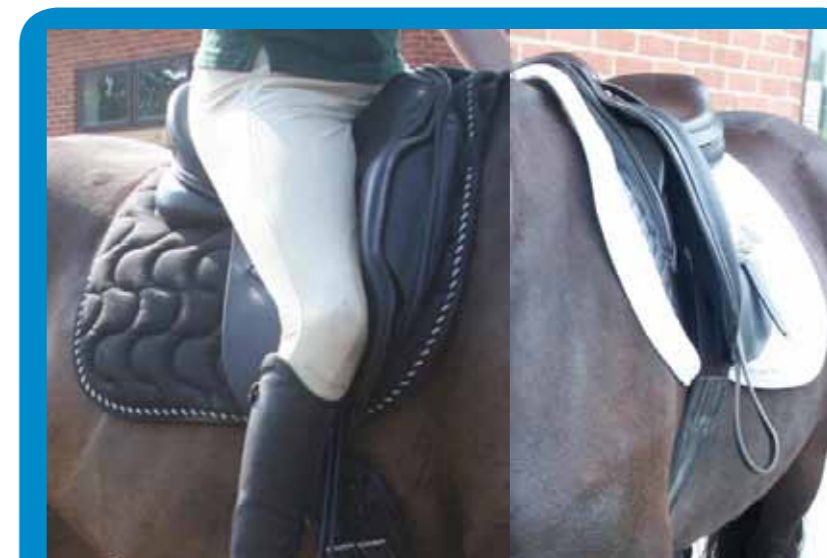
- Alternatively shims (wedge shaped pads) can be used to selectively raise one part of the saddle. If the saddle slopes backward, shims can be placed under the back of the saddle. Usually these saddles are too narrow and lifting the back of the saddle improves the balance. However, it may make the saddle tight under the tree points behind the shoulder. It may increase pressure on the spine and create a large 'bridging' area with reduced contact beneath the centre of the saddle.

- If the saddle is too wide, you may add shims under the front until it can be reflocked. You might need to change your shim configuration as often as every month if the horse is changing shape.

- A gel pad will not improve the fit of a well-fitted saddle. It is claimed that a gel pad acts as a shock absorber, but there is little scientific evidence to support this. It may limit movement of the saddle to some extent, but may result in overheating of the back.

- Always keep numnahs and saddle pads off the wither; you should still be able to insert two fingers' width (3 cm) between the numnah and the spine with a rider on the horse. Select a well-cut numnahs or pad, with a 'high wither cut', especially for a horse with a prominent wither.

- Never use a pad that is too small, because it may create a ridge of pressure at the edge.



To the left is a well-fitted saddle, but with a saddle pad that is pulled down on the wither. To the right is a well-fitted saddle with a saddle pad that is pulled up under the gullet, so is not applying pressure to the wither.

Saddle fit accessories

- Girths are available in a number of materials, with or without elastic inserts.
- Worn elastic may result in the girth being over-tightened.
- Elastic on only one end of the girth may result in the saddle being pulled to one side.
- Leather girths may slip more than girths made of other materials.
- A girth with curved contours in the elbow region may be more comfortable for the horse than a straight girth.
- Saddle fit accessories, such as breast-plate, crupper or a foregirth, may be used to hold the saddle in position, but if you discover you need it every day to keep your saddle in position, the saddle may not fit your horse properly. However, the conformation of some horses makes perfect saddle fit impossible and additional accessories are required.
- A breast-plate should not be used to lock the saddle in position. This may cause a continuous pressure on the chest and shoulder and restrict the movement of the forelimbs. A breastplate must be fitted to the horse so that it does not interfere with the shoulder movement.

Saddle slip

Saddle slip is defined as the saddle consistently moving to one side while you are riding. Saddle slip may be due to an ill-fitting saddle, asymmetry in the horse's back shape, a crooked rider or hindlimb lameness. We have demonstrated that hindlimb lameness is by far the most common cause.

Detection of saddle slip provides owners, riders and trainers the opportunity to identify not only obvious lameness, but also low-grade and sub-clinical lameness. If your saddle starts to slip regularly, seek help from...

A qualified saddle fitter.

A veterinarian experienced in lameness recognition.

Get someone to check that YOU are sitting squarely; you must be observed in walk, trot and canter directly from behind.

Help from a physiotherapist may be beneficial to teach you to sit more squarely.



Saddle use

- **Do** remember that using layers to correct a poorly fitting saddle can temporarily reduce signs of discomfort, because the pad relocates the pressure points. Improvement is usually transient, because new pressure points soon develop.
- **Do** be aware that using the same saddle on more than one horse is not ideal, unless the horses have similar back shape.
- **Do** recognize that pain elicited by feeling or grooming the back may be an indicator that back shape changes have occurred; saddle-fit should be reassessed.
- **Don't** be afraid of seeking professional help if something doesn't feel completely right on the horse!

Saddle maintenance

- Check the uniformity and softness of the flocking (stuffing) frequently and make sure the saddle is reflocked if you feel any lumps or hard, compressed areas.
- Check that it is safe to use the saddle – check stitching and wear on holes of girth straps and stirrup leathers. Check screw tightness of adjustable saddles.
- If you have a fall with the horse or you drop the saddle, ALWAYS make sure that the tree is NOT broken or damaged! A broken tree is no longer useable; repair is not advisable.
- Examine saddle panels and additional numnahs and saddle pads regularly.
- Clean the saddle at least once a week; wash with a cloth or sponge soaked in warm water (not too much) and apply saddle soap to keep the leather supple.
- Wash numnahs and saddle pads whenever they are dirty so that there is no hard sweat; this may need to be daily, depending on how much the horse sweats. Use a mild soap powder or liquid; avoid detergents which can result in skin irritation.
- Go over your saddle several times a year. Maintain leather and replace worn parts.
- Look for compressed areas imprints, or depressions. Check for uniform thickness.



To the left, a front view of a saddle in which the left panel is displaced, because of a missing adjustable gullet screw, exposing the tree. To the right, a potentially dangerously worn stirrup leather.

Saddle storage on a daily basis and during travelling

- You want to avoid depressions and lumps in the flocking caused by uneven contact of the panels during storage.
- A saddle rack may or may not compress areas of your saddle and make imprints. CHECK IT
- Do hang your saddle on an even surface, if possible. Tubular or V-shaped saddle racks covered with padding may be best.
- Avoid stacking one saddle on top of another.
- Take the girth off and hang it separately.
- Store in a warm, dry room.

The best saddle to buy is one that fits both the horse and the rider. To ensure good welfare finding the correct fitting saddle is essential and may take some time. Teach yourself to evaluate saddle fit, so that you know when something is not right. Check the fit regularly and listen to your horse and your own comfort.

Line Greve PhD-student, DVM, MRCVS
Sue Dyson MA, VetMB, PhD, DEO, FRCVS
Royal College of Veterinary Surgeons Specialist in
Equine Orthopaedics
Associate of the European College of Veterinary
Diagnostic Imaging
Tel.: 01638 751908
www.aht.org
Registered charity no. 209642



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